What is claimed is:

- 1 1. An apparatus for treating ocular disease comprising:
- a locating means for non-invasively locating Schlemm's Canal in an eye, and
- a microsurgical device coupled with the locating means so as to advance the
- 4 microsurgical device into a tissue space identified with Schlemm's Canal.
- 1 2. The apparatus of claim 1, wherein the microsurgical device is under control by the
- 2 locating means.
- 3. The apparatus of claim 1, wherein the locating means comprises a device for
- 2 ultrasound examination of the sclera.
- 4. The apparatus of claim 1, wherein the locating means comprises an ultrasound imaging
- 2 system.
- 5. The apparatus of claim 1, wherein the locating means comprises a non-imaging
- 2 ultrasound detection system.
- 6. The apparatus of claim 1, wherein the locating means comprises an ultrasound device
- 2 for examination of the sclera with an ultrasound frequency greater than 10 MHz.
- 7. The apparatus of claim 1, wherein the locating means comprises an ultrasound device
- 2 for examination of the sclera with an ultrasound frequency of at least 40 MHz.
- 8. The apparatus of claim 3, wherein the locating means utilizes an ultrasound contrast
- 2 tracer introduced into the aqueous humor.
- 9. The apparatus of claim 1, wherein the locating means comprises a non-imaging
- 2 ultrasound device for examination of the sclera.

- 1 10. The apparatus of claim 9, wherein the locating means comprises a transducer
- 2 assembly with signaling means for directing the transducer location.
- 1 11. The apparatus of claim 1, wherein the locating means comprises an optical imaging
- device for non-invasively locating Schlemm's Canal in the eye.
- 1 12. The apparatus of claim 11, wherein the optical imaging device comprises a high
- 2 intensity white light illumination source.
- 1 13. The apparatus of claim 11, wherein the optical imaging device comprises an optically
- 2 coherent illumination source.
- 1 14. The apparatus of claim 11, wherein the optical imaging device comprises a fiber optic
- device.
- 1 15. The apparatus of claim 11, wherein the optical imaging device utilizes detection via
- 2 visible wavelengths of light.
- 1 16. The apparatus of claim 11, wherein the optical imaging device utilizes detection via
- 2 infrared wavelengths.
- 1 17. The apparatus of claim 11, wherein the optical imaging device utilizes optical
- 2 imaging of a fluorescent tracer in the aqueous humor.
- 1 18. The apparatus of claim 1, wherein a tissue contacting surface of the locating means is
- 2 curved to approximate the surface of the eye.

- 1 19. The apparatus of claim 1, wherein a tissue contacting surface of the locating means
- 2 incorporates a circumferential raised portion to maintain placement of a coupling fluid
- 3 over a transducer face to aid in energy transfer between the locating means and the tissue
- 4 surface.
- 1 20. An apparatus for treating ocular disease comprising:
- a non-invasive locating means for locating Schlemm's Canal in the eye, and
- a microcannula coupled with the locating means so as to slidably advance into a
- 4 tissue space identified with Schlemm's Canal.
- 1 21. The apparatus of claim 20, wherein the microcannula has an outer diameter of less
- 2 than 200 microns.
- 1 22. The apparatus of claim 20, wherein the microcannula is coupled to the locating means
- at an angle between 0 and 30 degrees from the plane of Schlemm's Canal in the eye.
- 1 23. The apparatus of claim 20, wherein an angle of the microcannula with respect to the
- 2 locating means is adjustable.
- 1 24. The apparatus of claim 20, wherein the locating means and the microcannula are
- 2 disposed within a unitary body.
- 1 25. The apparatus of claim 20, wherein the microcannula is coupled to the locating means
- 2 by way of a clip mechanism.
- 1 26. The apparatus of claim 20, wherein a distal portion of the microcannula is curved to
- 2 accommodate a curvature of Schlemm's Canal.
- 1 27. The apparatus of claim 20, wherein the microcannula incorporates a cutting tip to
- 2 penetrate a sclera of the eye.

- 1 28. The apparatus of claim 20, wherein the microcannula is comprised of an outer sheath
- 2 and an inner cannula.
- 1 29. The apparatus of claim 28, wherein the inner cannula incorporates a cutting tip to
- 2 penetrate a sclera of the eye.
- 1 30. The apparatus of claim 29, wherein the outer sheath is comprised of a rigid tube.
- 1 31. The apparatus of claim 29, wherein the outer sheath is comprised of a flexible tube.
- 1 32. An apparatus for treating ocular disease comprising:
- a non-invasive locating means for locating Schlemm's Canal,
- a microcannula which is linked with the locating means to advance the microcannula
- 4 into an identified tissue space for Schlemm's Canal, and
- a dilation mechanism at the tip of the microcannula.
- 1 33. The apparatus of claim 32, wherein the dilation mechanism is comprised of an
- 2 expandable balloon.
- 1 34. The apparatus of claim 32, wherein the dilation mechanism is comprised of an
- 2 expandable tip on the microcannula.
- 1 35. The apparatus of claim 32, wherein the dilation mechanism is comprised of a series of
- 2 nested cannulae having successively larger diameters.
- 1 36. The apparatus of claim 32, wherein the dilation mechanism is comprised of an
- 2 elongate rod having steps of successively increasing diameters.

- 1 37. The apparatus of claim 32, wherein the microcannula is coupled coaxially with the
- 2 locating means.
- 1 38. An apparatus for treating ocular disease comprising:
- a non-invasive locating means for locating Schlemm's Canal,
- a microcannula which is linked with the locating means to advance the microcannula
- 4 into an identified tissue space for Schlemm's Canal, and
- 5 an implant which is delivered into Schlemm's Canal.
- 1 39. The apparatus of claim 38, wherein the implant comprises an expandable stent.
- 1 40. The apparatus of claim 38, wherein the implant comprises microparticles.
- 1 41. The apparatus of claim 38, wherein the implant comprises a drug releasing material.
- 1 42. The apparatus of claim 38, wherein the stent comprises a biodegradable material.
- 1 43. The apparatus of claim 40, wherein the microparticles comprise a biodegradable
- 2 material.
- 1 44. The apparatus of claim 41, wherein the drug releasing material contains a drug
- 2 effective in the treatment of glaucoma.
- 1 45. An apparatus for treating ocular disease comprising:
- a non-invasive locating means for locating Schlemm's Canal,
- a microcannula which is linked with the locating means to advance the microcannula
- 4 into an identified tissue space for Schlemm's Canal, and

- a construct which is delivered through the microcannula to effect a surgical procedure
- on a trabecular meshwork of the eye.
- 1 46. The apparatus of claim 45, wherein the construct comprises a surgical tool for cutting
- 2 tissues.
- 1 47. The apparatus of claim 45, wherein the construct comprises a fiber optic device.
- 1 48. The apparatus of claim 47, wherein the fiber optic device is an imaging fiber.
- 1 49. The apparatus of claim 47, wherein the fiber optic device is an illuminating fiber.
- 1 50. A method for surgically accessing Schlemm's Canal for treating ocular disease,
- 2 comprising:
- 3 locating Schlemm's Canal in an eye via non-invasive means;
- 4 advancing a minimally invasive surgical device into the canal guided by the locating
- 5 means;
- 6 delivering a substance for the treatment of the ocular disease.
- 1 51. The method of claim 50, wherein Schlemm's Canal is located using ultrasound
- 2 imaging.
- 1 52. The method of claim 50, wherein Schlemm's Canal is located using optical means.
- 1 53. The method of claim 50, wherein ultrasound imaging is utilized.
- 1 54. The method of claim 50, wherein non-imaging ultrasound guidance is utilized.

- 1 55. The method of claim 52, wherein high intensity white light is utilized.
- 1 56. The method of claim 52, wherein a coherent light source is utilized.
- 1 57. The method of claim 52, wherein visible light detection is utilized.
- 1 58. The method of claim 52, wherein infrared light detection is utilized.
- 1 59. The method of claim 50, wherein the surgical device is a cannula between 50 and 250
- 2 microns in diameter.
- 1 60. The method of claim 50, wherein the substance is a viscoelastic material.
- 1 61. The method of claim 50, wherein the substance is a gas.
- 1 62. The method of claim 50, wherein the substance is a fluorocarbon compound.
- 1 63. The method of claim 50, wherein the substance comprises a drug releasing substance.